

WHAT IS CLAIMED IS:

1 1. A computer implemented method for determining system information, wherein
2 the system is comprised of at least one host adaptor, at least one switch, and at least one
3 Input/Output (I/O) device, wherein a path in the system from one host adaptor to the I/O
4 device includes as path components one host adaptor, one switch, one storage device, a first
5 link between the host adaptor and the switch and a second link between the switch and the
6 storage device, comprising:

7 determining component information on host adaptor, switch, and I/O device

8 components in a network system;

9 adding the determined component information to a configuration file providing
10 configuration information on the network system;

11 for each determined host adaptor, performing:

12 (i) determining, from the component information, information on the first link
13 between the host adaptor and the switch;

14 (ii) determining, from the component information, information on the I/O device
15 to which the host adaptor communicates;

16 (iii) determining the second link between the I/O device and the switch; and

17 (iv) adding information on the first and second link to the configuration file.

1 2. The method of claim 1, wherein the second link is determined by using the
2 determined information on the first link and the I/O device to which the host adaptor
3 communicates.

1 3. The method of claim 1, further comprising:
2 receiving a request from an application program for configuration information on at least
3 one component in the system;

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7. The method of claim 4, wherein the switch is comprised of multiple initiator and destination ports, wherein the component information indicates the address of each initiator and destination port in the switch, wherein the information on the first link indicates the initiator port on the switch to which the host adaptor connects and wherein the information on the second link indicates the destination port on the switch to which the I/O device connects, wherein at least one path includes one destination port and initiator port in the switch.

1 8. The method of claim 7, wherein the address of each initiator port comprises the
2 address of the host adaptor connected to the initiator port, wherein determining the first link
3 further comprises:

4 determining the host adaptor having the same address as the address of one initiator
5 port, wherein the first link comprises a connection between the host adaptor and initiator port
6 having the same address.

1 9. The method of claim 7, wherein a plurality of destination ports connect to
2 loops, wherein a plurality of devices are capable of being attached to the loop and wherein
3 each attached device and the destination port have a loop address on the loop, wherein a
4 plurality of I/O devices connect to the loops, wherein the component information indicates the
5 loop address of the I/O devices connected to the loops, and wherein determining the second
6 link further comprises:

7 for each initiator port, performing:

8 determining one destination port the initiator port is capable of accessing; and

9 determining one I/O device having a loop address that matches the loop

10 address of one of the devices attached to the loop to which the determined destination
11 port is attached, wherein the second link includes the loop to which the determined I/O
12 device and determined destination port are attached.

1 10. The method of claim 9, wherein the component information includes a physical
2 path address for each host adaptor and I/O device, wherein the address of each initiator port
3 comprises the address of the host adaptor connected to the initiator port, further comprising:

4 determining the host adaptor having the same address as the address of one initiator

5 port, wherein the first link comprises a connection between the host adaptor and initiator port

6 having the same address; and

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7 determining one I/O device having a same physical path address as the determined host
8 adaptor, wherein the determined host adaptor transfers data to the I/O device having the same
9 physical path address, wherein the component information associates the destination port with
10 the initiator port having the same address as the host adaptor that has the same physical path
11 address as the I/O device to which the destination port connects.

1 11. The method of claim 7, wherein the switch implements the Fibre Channel
2 protocol.

1 12. The method of claim 1, wherein the I/O device comprises a storage device.

1 13. A system for determining network information, wherein the network is
2 comprised of at least one host adaptor, at least one switch, and at least one Input/Output (I/O)
3 device, wherein a path in the network from one host adaptor to the I/O device includes as path
4 components one host adaptor, one switch, one storage device, a first link between the host
5 adaptor and the switch and a second link between the switch and the storage device,
6 comprising:

7 means for determining component information on host adaptor, switch, and I/O device
8 components in the network;

9 means for adding the determined component information to a configuration file
10 providing configuration information on the network system;

11 means for performing, for each determined host adaptor:

12 (i) determining, from the component information, information on the first link
13 between the host adaptor and the switch;

14 (ii) determining, from the component information, information on the I/O device
15 to which the host adaptor communicates;

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- 16 (iii) determining the second link between the I/O device and the switch; and
17 (iv) adding information on the first and second link to the configuration file.

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1 14. The system of claim 13, wherein the second link is determined by using the
2 determined information on the first link and the I/O device to which the host adaptor
3 communicates.

1 15. The system of claim 13, further comprising:
2 means for receiving a request from an application program for configuration information
3 on at least one component in the system;
4 means for querying the configuration file to determine the requested configuration
5 information; and
6 means for returning the requested configuration information to the application program.

1 16. The system of claim 13, wherein the component information includes the
2 address of each component in the system.

1 17. The system of claim 16, wherein the component information includes a loop
2 address of each I/O device connecting to a loop that also connects to the switch, wherein the
3 component information further includes information on multiple loops to which the switch
4 connects and for each loop, the address of all the devices that are attached to the loop, wherein
5 the means for determining the second link further performs:
6 determining one I/O device having a loop address that matches the loop address of one
7 device attached to the loop to which the switch connects, wherein the second link includes the
8 loop to which the determined I/O device and switch connect.

7 determining one destination port the initiator port is capable of accessing; and

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25. An article of manufacture implementing code to determine system information, wherein the system is comprised of at least one host adaptor, at least one switch, and at least one Input/Output (I/O) device, wherein a path in the system from one host adaptor to the I/O device includes as path components one host adaptor, one switch, one storage device, a first

28. The article of manufacture of claim 25, wherein the component information includes the address of each component in the system.

32. The article of manufacture of claim 31, wherein the address of each initiator port comprises the address of the host adaptor connected to the initiator port, wherein determining the first link further comprises:

4 determining the host adaptor having the same address as the address of one initiator
5 port, wherein the first link comprises a connection between the host adaptor and initiator port
6 having the same address.

1 33. The article of manufacture of claim 31, wherein a plurality of destination ports
2 connect to loops, wherein a plurality of devices are capable of being attached to the loop and
3 wherein each attached device and the destination port have a loop address on the loop,
4 wherein a plurality of I/O devices connect to the loops, wherein the component information
5 indicates the loop address of the I/O devices connected to the loops, and wherein determining
6 the second link further comprises:

7 for each initiator port, performing:
8 determining one destination port the initiator port is capable of accessing; and
9 determining one I/O device having a loop address that matches the loop
10 address of one of the devices attached to the loop to which the determined destination
11 port is attached, wherein the second link includes the loop to which the determined I/O
12 device and determined destination port are attached.

1 34. The article of manufacture of claim 33, wherein the component information
2 includes a physical path address for each host adaptor and I/O device, wherein the address of
3 each initiator port comprises the address of the host adaptor connected to the initiator port,
4 further comprising:

5 determining the host adaptor having the same address as the address of one initiator
6 port, wherein the first link comprises a connection between the host adaptor and initiator port
7 having the same address; and

8 determining one I/O device having a same physical path address as the determined host
9 adaptor, wherein the determined host adaptor transfers data to the I/O device having the same

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10 physical path address, wherein the component information associates the destination port with
11 the initiator port having the same address as the host adaptor that has the same physical path
12 address as the I/O device to which the destination port connects.

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1 35. The article of manufacture of claim 31, wherein the switch implements the Fibre
2 Channel protocol.

1 36. The article of manufacture of claim 25, wherein the I/O device comprises a
2 storage device.